

CLAIMS:

1. Verification apparatus for the verification of a loop sensor, the apparatus comprising:
5 a verification loop comprising a loop of electrically conductive material; and
impedance variation means for varying the impedance of the verification loop.
2. An apparatus as claimed in claim 1, wherein the impedance variation means comprises a switch for completing a conducting path around the verification loop.
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3. An apparatus as claimed in claim 1 or 2, comprising a plurality of verification loops arranged in a substantially linear array.
4. An apparatus as claimed in claim 3, comprising:
15 two substantially parallel elongate edge conductors; and
a plurality of elongate linking conductors, each extending from one edge conductor to the other edge conductor;
a plurality of switches, each switch being associated with a linking conductor or
a portion of an edge conductor between two adjacent linking conductors, for completing
20 a conducting path along the linking conductor or portion of edge conductor;
wherein a verification loop is formable from two adjacent linking conductors
and the portions of the edge conductors between the two adjacent linking conductors.
5. An apparatus as claimed in claim 4, further comprising control means for
25 activating and de-activating the switches.
6. An apparatus as claimed in claim 5, wherein the control means is arranged to
activate and de-activate the switches in sequence in such a way that a complete
verification loop comprising a conducting loop effectively moves along the apparatus.
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7. An apparatus as claimed in claim 5, wherein the control means is arranged to activate the switches associated with a plurality of adjacent linking conductors or portions of edge conductors simultaneously so as to produce a conducting area, said area including said plurality of adjacent linking conductors and a portion of each of the edge conductors.

8. An apparatus as claimed in claim 7, wherein the controller is arranged to activate the switches in sequence in such a way that the conducting area effectively moves along the apparatus.

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9. An apparatus as claimed in any of claims 4 to 8, wherein the or each switch is actuatable in such a way as to cause the associated linking conductor or portion of edge conductor to become partially conducting.

10. An apparatus as claimed in any of claims 2 to 9, wherein the or each switch comprises a semiconductor.

11. An apparatus as claimed in any preceding claim, wherein the conductive material comprises a semiconductor.

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12. An apparatus as claimed in any preceding claim, mounted on a moveable platform.

13. A vehicle detection system, comprising:

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a loop sensor;

a loop detector for driving the loop sensor and detecting changes in the impedance of the loop sensor; and

a verification apparatus as claimed in any preceding claim in proximity to the loop sensor.

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14. A vehicle detection system as claimed in claim 13, further comprising more than one loop sensor, wherein the verification apparatus is placed adjacent to each loop sensor simultaneously.

5 15. A vehicle detection system as claimed in claim 13, further comprising an additional loop sensor, and an additional verification apparatus in proximity to the additional loop sensor.

16. A vehicle detection system as claimed in claim 13, further comprising two
10 adjacent loop sensors, wherein the verification apparatus is placed in the gap between the two adjacent loop sensors.

17. A vehicle detection system as claimed in claim 16, arranged to verify that, when the verification apparatus is activated, only one of the two adjacent loop sensors detects
15 the passage of a vehicle.

18. A method of verifying a vehicle detection system, the vehicle detection system comprising a loop sensor and associated loop detector for driving the loop sensor and detecting changes in impedance in the loop sensor, the method comprising:

20 placing a verification loop adjacent to the loop sensor;
varying the impedance of the verification loop so as to vary the impedance of the loop sensor;

measuring the change in impedance of the loop sensor; and
comparing the change in impedance of the loop sensor with the change expected
25 in response to the known change in impedance of the verification loop.

19. A method of verifying a vehicle detection system comprising one or more loop sensors and associated loop detectors for driving said loop sensors and detecting changes in impedance in the loop sensors, the method comprising:

30 placing a verification apparatus adjacent the loop sensor or sensors, the verification apparatus comprising:

a pair of substantially parallel elongate edge conductors; and
an array of elongate linking conductors each extending from one edge
conductor to the other edge conductor, each linking conductor being associated
with a switch for completing a conducting path along that linking conductor
5 from one edge conductor to the other edge conductor; and
activating the switches in such a way that a plurality of adjacent linking
conductors simultaneously have complete conducting paths linking the edge conductors,
so as to produce an effective area of conducting material.

10 20. A method of verifying a vehicle detection system comprising one or more loop
sensors and associated loop detectors for driving said loop sensors and detecting
changes in impedance in the loop sensors, the method comprising:

placing a verification apparatus adjacent the loop sensor or sensors, the
verification apparatus comprising:

15 a pair of substantially parallel elongate edge conductors;
an array of elongate linking conductors each extending from one edge
conductor to the other edge conductor; and

an array of switches associated with each edge conductor for completing
a conducting path along the edge conductor between two adjacent linking
20 conductors; and

activating the switches in such a way as to complete a conducting path along a
portion of each edge conductor contacting a plurality of adjacent linking conductors, so
as to produce an effective area of conducting material.

25 21. A method as claimed in claim 19 or 20, further comprising activating the
switches in such a way that the effective area moves along the verification apparatus.

22. A verification apparatus for verifying a loop detection system having at least one
loop sensor, the verification apparatus comprising:

30 at least two substantially parallel elongate edge conductors;

a plurality of elongate linking conductors, each extending from one edge conductor to another edge conductor; and

5 a plurality of individually addressable switches, each switch being associated with a linking conductor or a portion of an edge conductor between two adjacent linking conductors, for completing a conducting path along the linking conductor or portion of edge conductor.

23. A verification apparatus for verifying a loop detection system having at least one loop sensor, the verification apparatus comprising:

10 a pair of substantially parallel elongate edge conductors; and

an array of elongate linking conductors each extending from one edge conductor to the other edge conductor, each linking conductor being associated with a switch for completing a conducting path along that linking conductor from one edge conductor to the other edge conductor.

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